



U.S. Department of Energy
Energy Efficiency
and Renewable Energy



Clean Cities & Fuel Economy

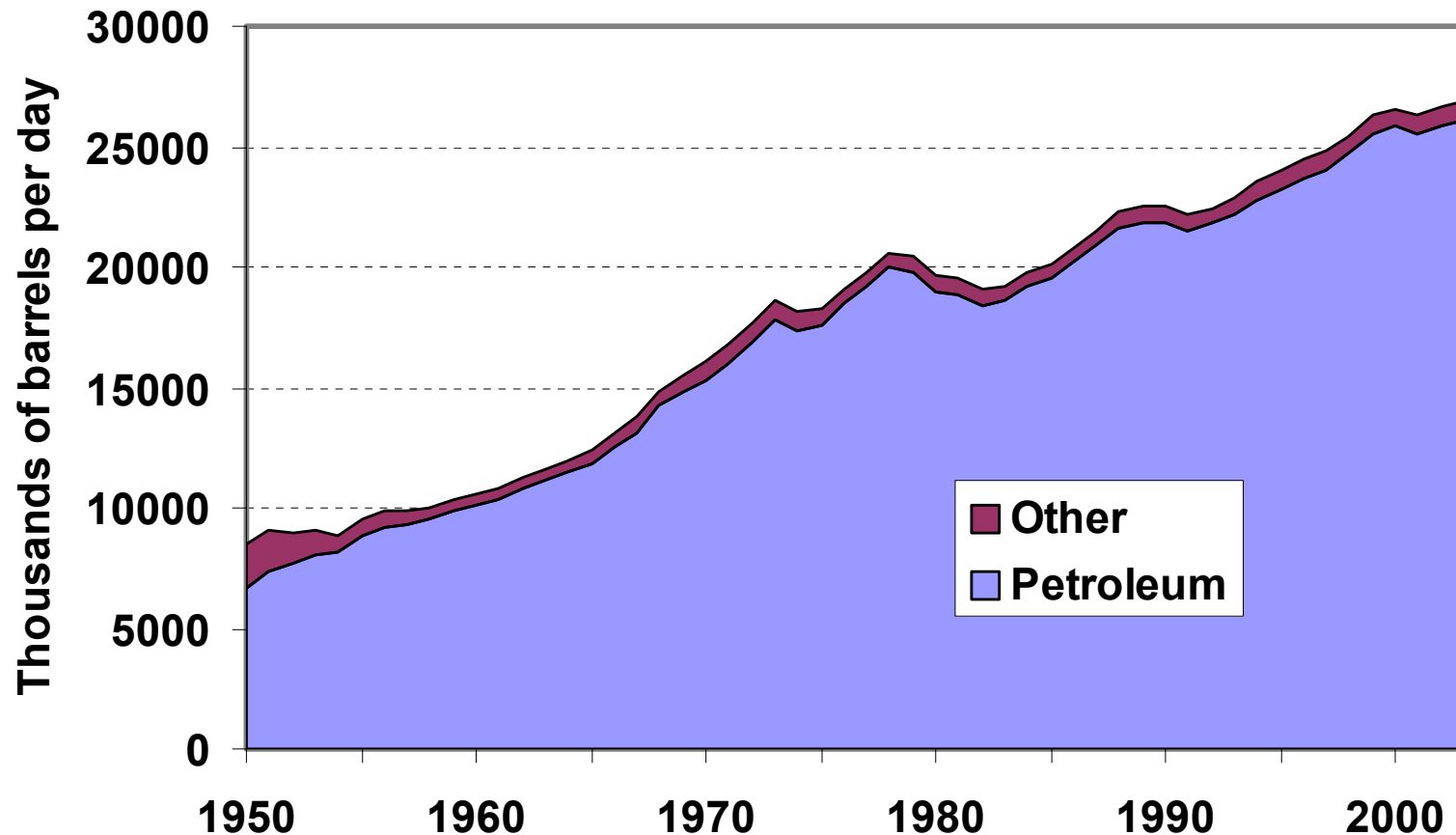
David Greene
Oak Ridge National Laboratory

Clean Cities Fuel Economy Webcast
February 16, 2005



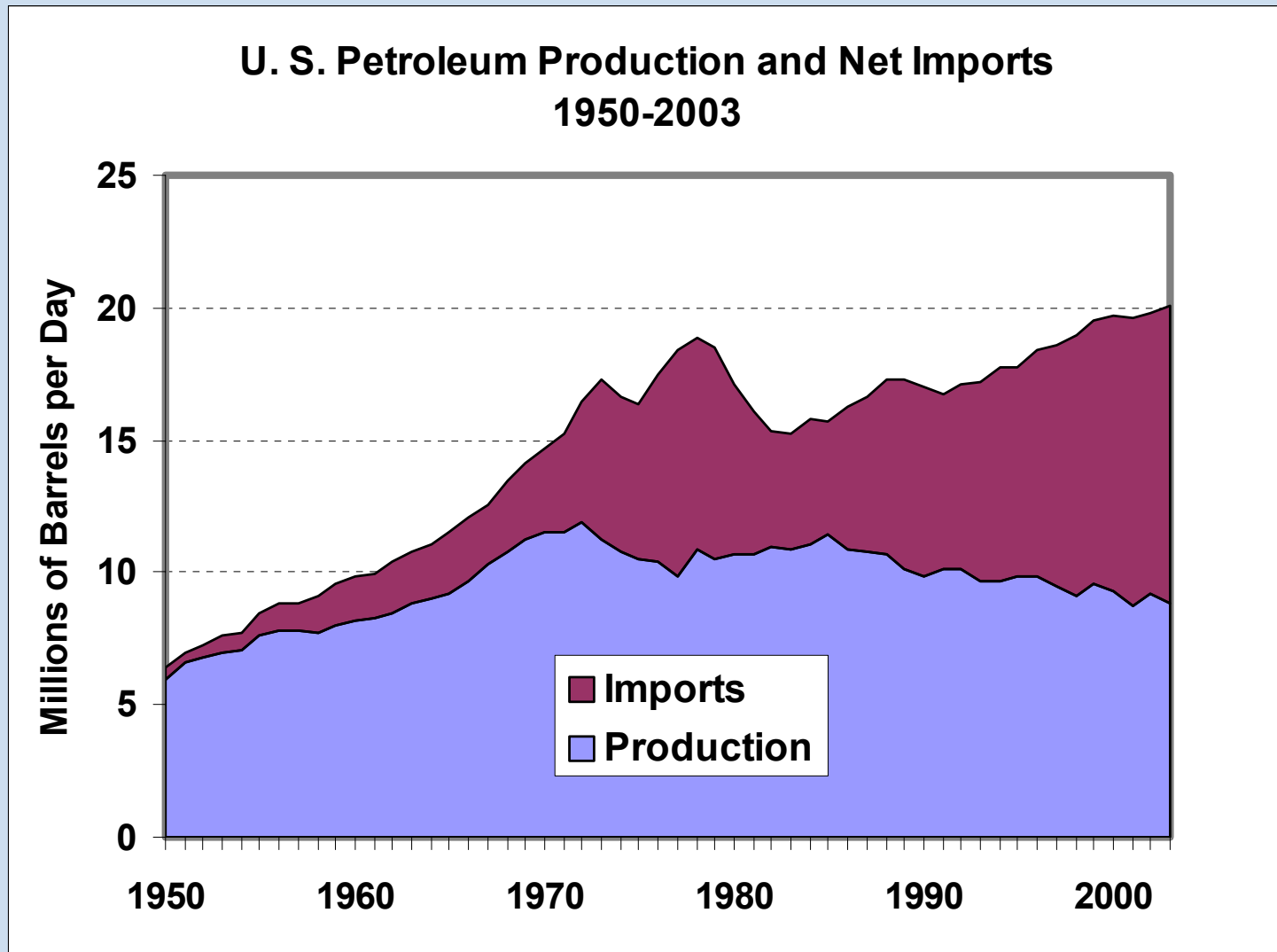
Our transportation system remains petroleum dependent.

U.S. Transportation Energy Use, 1950-2000



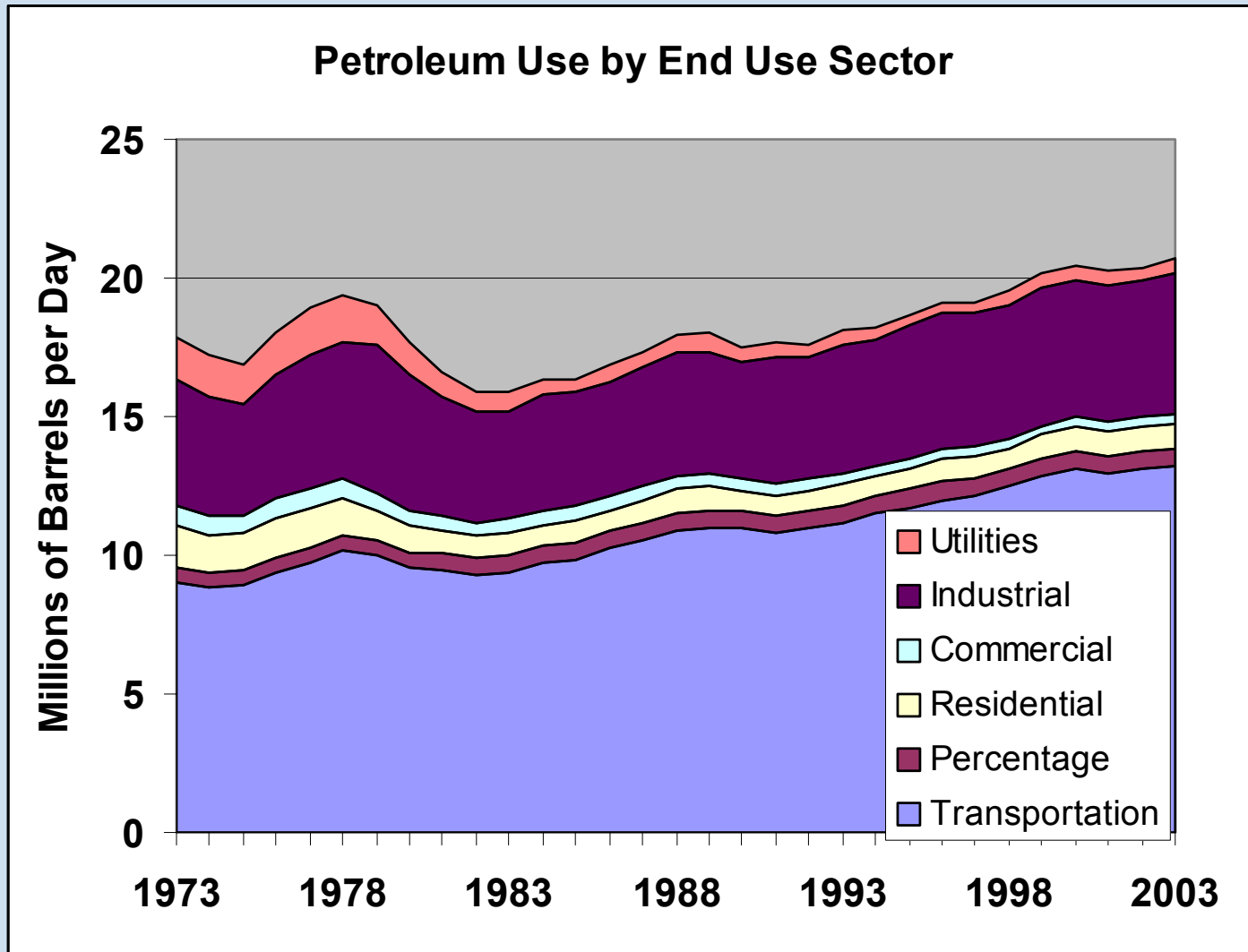


More than half (56%) of that oil is imported.





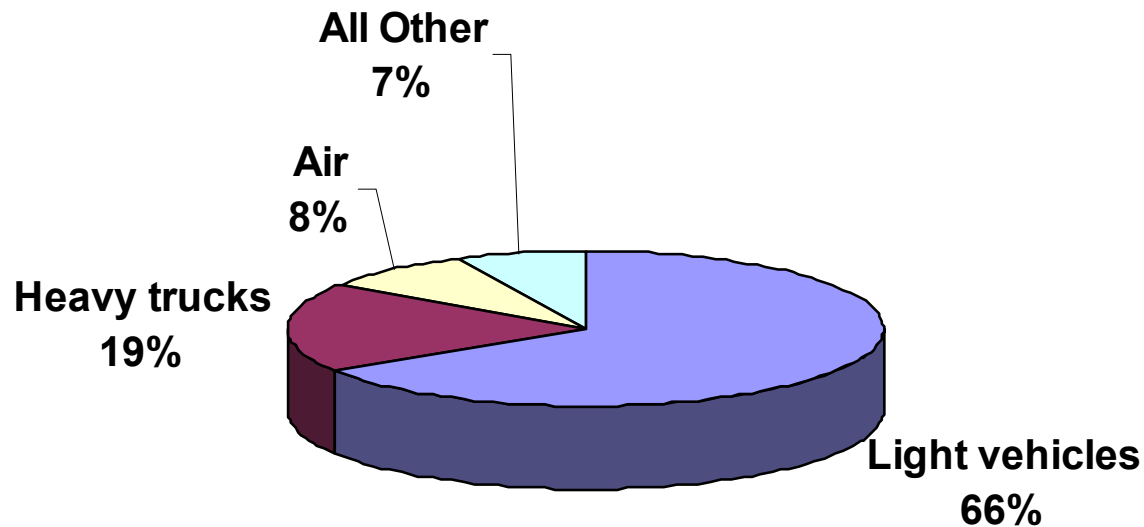
Transportation consumes for 2/3 of U.S. petroleum.





Cars and light trucks use 2/3 of transportation energy.

Transportation Energy Use, 2002 (Mbbbl/day)





Every 1% increase in fuel economy saves 85,000 barrels of petroleum per day and 1.3 million tons of CO₂ per year.

- **Motorist behavior**
 - Driving tips: can save up to 10%
 - Maintenance: can save 5% or more
- **Vehicle choice**
 - 1 MPG is a 4% improvement
 - Encourage consumer demand for fuel efficient technology
- **Over 4 million user sessions in 2004**
- **How many reached via web, print, & TV?**
- **How have we affected their decisions?**
- **We will present our estimates at the CC Conference**



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Clean
Cities

www.fueleconomy.gov

[Links](#) | [FAQ](#) | [Site Map](#) | [Search](#) | [Contacts](#)



United States Department of Energy
Energy Efficiency and Renewable Energy

United States
Environmental Protection Agency



Find and Compare Cars ▶

Gas mileage (MPG), greenhouse gas emissions, air pollution ratings, and safety information for new and used cars and trucks

Gasoline Prices ▶

Gas Mileage Tips ▶

Advanced Technology ▶

About Fuel Economy Ratings ▶

Why is Fuel Economy Important? ▶

Special Features



Hybrid Vehicles
[How Hybrids Work](#)
[News and Info.....](#)



Fuel Economy Ratings
[How Vehicles are Tested](#)
[Why Your MPG May Differ](#)



2005 Fuel Economy Guide



Fuel Cells
[How Fuel Cells Work](#)
[Fuel Cell Vehicles](#)

Question of the Week....

Which State produces the most petroleum?

- ☐ Virginia
- ☐ Louisiana
- ☐ Texas
- ☐ Alaska

Answers to your questions....

[Why is my fuel economy different from the EPA rating?](#)

[How are fuel economy estimates obtained?](#)

[Why don't you have ratings for large pickup trucks and SUVs?](#)

[Download the Data](#)

[Find and Compare Cars](#)

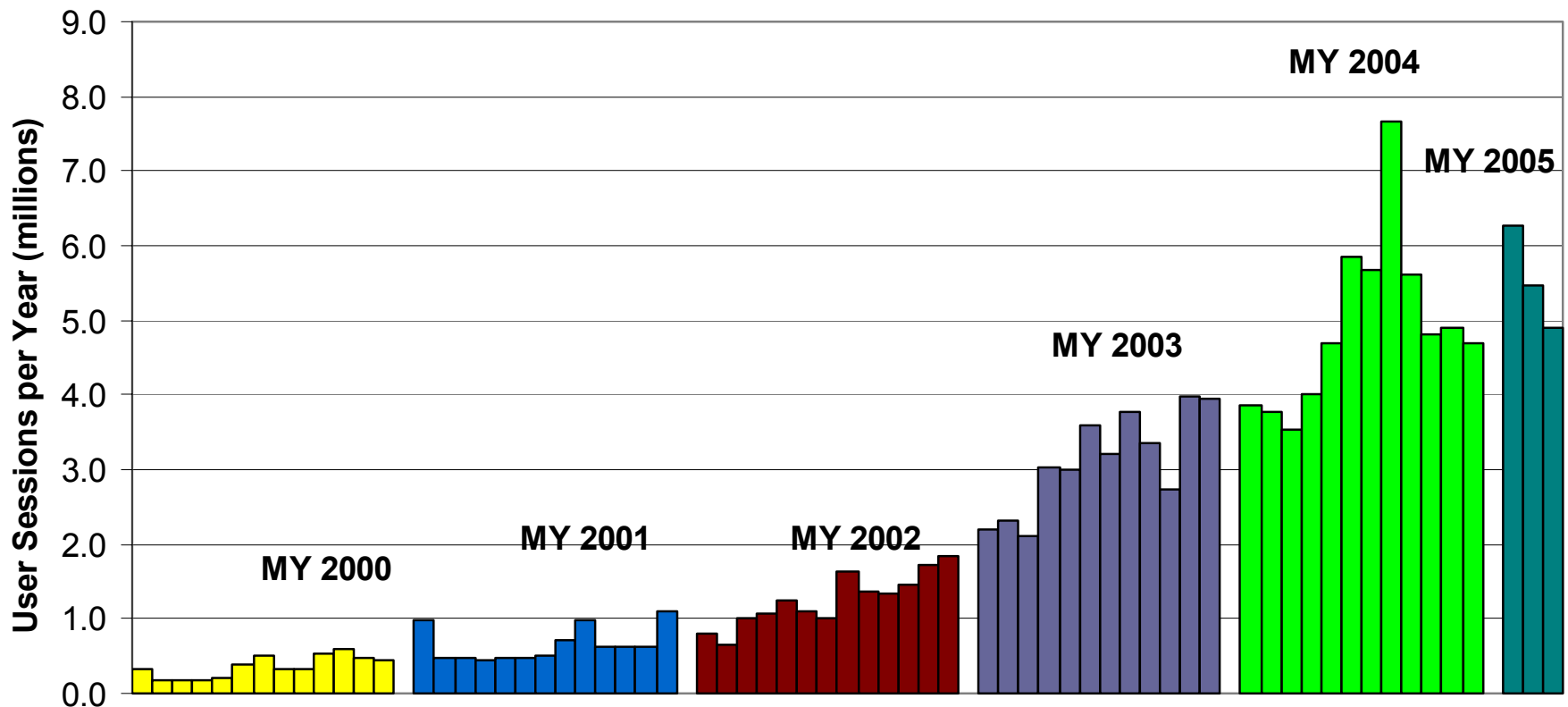
[Info for Auto Dealers](#)

[Privacy/Security](#)

[Feedback](#)

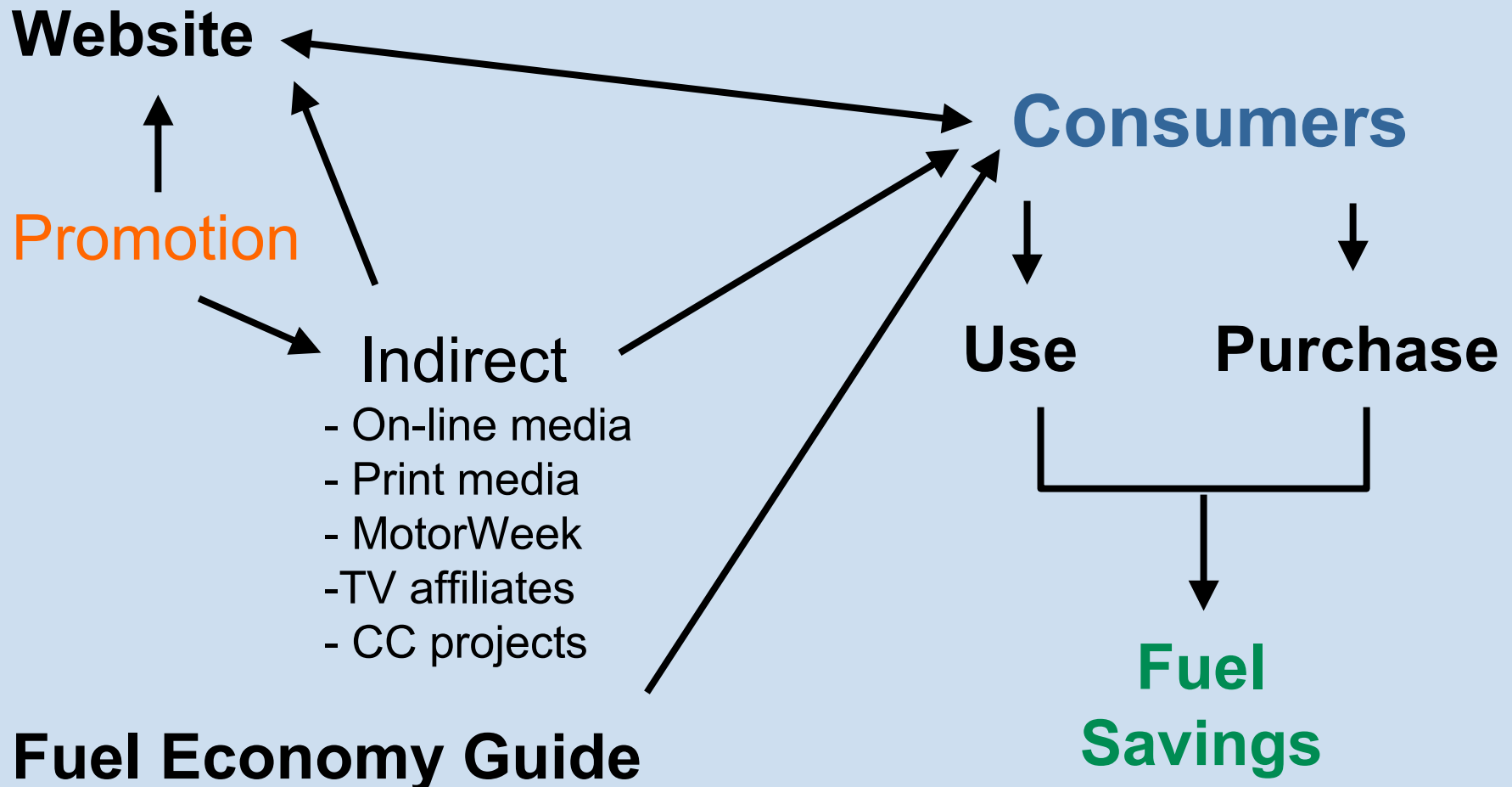


User Sessions on www.fueleconomy.gov





Key to our success to date has been active promotion of fueleconomy.gov and the Guide.





An incomplete count of media links shows their importance.

National Internet News Sites (includes Yahoo, MSN, Wired.com, etc)	35
National Newspaper (e.g. NY Times, USA Today, Washington Post)	91
Local Newspapers	141
College and Alternative Newspapers	8
National Television Web Sites (CNN, CBS, PBS)	14
Local TV News Sites	61
Radio Web Sites	3
On-line Magazines	37
Automotive News and Web Sites	37
Miscellaneous Newsletters (AAA, Credit Unions, Industry Sites, Environmental Sites, etc.)	98
State and Federal Government	43
International News	7



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Over 140 national newspaper, TV and radio web sites linked to fueleconomy.gov in 2004/2005.

CBSNEWS.com INTERACTIVE: **GAS PRICES**

Gas Prices

2,269.95
2,089.00

- U.S. PRICES:** State-By-State Map
- COST COMPONENTS:** How's Price Per Gallon Set?
- STRETCH YOUR TANK:** Tips To Improve Gas Mileage

What's the **Doggie** difference? You can search all the leading engines.

dogpile.com
All the best search engines piled into one.

FETCH!

Car Talk **Donate Your Used Car**
Support your local NPR station — and get a tax deduction, courtesy of Car Talk.

Actual Car Information | Our Lousy Radio Show | Email & Chat | Time Kill Central | Shameless Commerce | cars.com Home

July 21, 2004

As Read on Car Talk:
Gardner discusses when it comes to movies. Plus: Volvo's remote door stop and one, extremely painful gas.

Gettin' Somewhere?
Take our summer driving quiz and a few good mechanics along for the ride.

Wire Tom and Ray:
Could hybrid gas really be the best way to keep the varmint out of Devor's car? [Join in.](#)

More Below...

carTalk.com
• Latest Automotive News
• Check Crash Test Scores

Sell a car
Your ZIP:
• Place an Ad
• Edit or Renew an Ad
• Learn More About Selling

Buy a new car
Make:
Your ZIP:
• Price With Options

ECO
PART ONE:
DRIVING TIPS FOR TEE-BEGGERS

Despite what Ralph Nader says, you don't have to start riding a bike-powered lawn mower to help save the environment. There are plenty of simple things you can do that will help clean up the air—and save you a few bucks.

Introduction
Driving and Maintenance tips
New car options
Ideas from the Fringe
Share Your Ideas

PBS **NOW** WITH BILL MOYERS

PRE HOME | PROGRAMS A-Z | TV SCHEDULES | SUPPORT PBS | SHOP PBS | SEARCH PBS

Home | Politics & Economy | Science & Health | Arts & Culture | Society & Community

1:31:03
Science and Health:
Road Work Ahead

More on This Story:

Overview

In his recent State of the Union address, President Bush proposed \$1.2 billion in research funding for hydrogen-powered automobiles. He called on Americans for their support, saying "Join me in this important innovation to make our air significantly cleaner, and our country much less dependent on foreign sources of energy." What's wrong with the cars we have now? Today, personal vehicles account for 49% of all U.S. oil consumption and 19% of all U.S. carbon emissions.

CNNmoney
From the editors of CNN and MONEY magazine

PERSONAL FINANCE > **Five Tips**

Getting the most from your gas budget

5 Tips: Making your summer driving easier
May 22, 2004 2:04 PM EDT
By **Steve Miller**, CNN/Money contributing columnist

NEW YORK (CNN/Money) - The summer is coming and summer travel plans are being made. In fact, last summer, Americans made more than 290 million trips 50 miles or more away from their home.

And this year the pace is not expected to slow down -- though it will be more expensive. Gas in June is expected to average \$2.03 a gallon, according to the latest forecast from the government's Energy Information Administration.

What can you do to be prepared? Here are five tips.

1. Be aware of a potential "perfect storm."

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Your mortgage solution. Delivered.

Click here or call 24/7

Loan pre-approval in minutes

NEWS **Gas prices, technology give diesels second life**
High-mileage VW models impress EPA, but not all observers

Volkswagen's new Jetta includes a diesel version that scored a 36 on the EPA's 100-mpg test. The Jetta diesel is not a 100-mpg car, but it's a close second.

By **Nicole Llanos**
Reporter
MSNBC
Submitted: 07/27/04 11:11 AM EDT, 2004

If gas prices have you looking at your auto options, Volkswagen's Jetta and even the new Jetta TDI (Turbo Diesel Injection) might be the car you want. The Jetta TDI is a cleaner, quieter and even higher-mileage Jetta than the standard Jetta. It's a diesel, but it's not a smoky, 100-mpg Jetta in the dirt.

Tedlow

GO.com **PUMP PRICE PRIMER**

Price breakdown per gallon: Taxes 22%, Distribution 10%, Refining 23%, Crude oil 45%

Price tracker 2.09 2.19 2.29

Price factors

Tips:
Select a tip:
Gas prices in the United States continue to climb sharply, rising more than 14 cents to an average of \$2.07 per gallon, according to a nationwide survey. Here are some tips to help reduce the amount of gas you use and assist you in getting the best gas mileage your car can deliver.

close window

T-Shirts, Hats, Bags, Mugs & more
Click here to enter The Turner Store



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Magazines use our web content and also publish our URL.



CCC A NEWSPAPER SERVICE FROM THE CAR CARE COUNCIL

FALL/WINTER 2001 VEHICLE CARE SUPPLEMENT

Car Care

New And Improved Fuel Economy Web Site Offers Car Buyers One Stop Auto Information

Car buyers have a new and improved on-line tool to help them select the cleanest, safest, most fuel-efficient vehicle that suits their needs. This summer the U.S. Department of Energy (DOE) added several new features to its fuel economy web site, www.fueleconomy.gov, including information on vehicle air pollution emissions and safety ratings; and a gasoline price page with links to national and regional fuel price information.

www.fueleconomy.gov

The Federal government's fuel economy web site offers fuel-saving tips, which include vehicle maintenance practices such as proper tire inflation, wheel alignment, and brake adjustment, as well as regular motor oil and air filter changes.

is more fuel-efficient and has lower greenhouse gas emissions than the 5-liter version of the same model.

The new gasoline price page features links targeted to national and regional fuel price information, courtesy of the American Automobile Association (AAA) and DOE's Energy Information Administration (EIA). Other links direct users to stations offering the least expensive gas in town. And a


Reader's Digest

CUT CAR COSTS
• Insurance
• Gas • Repairs

Cut Car Costs

Save on insurance, repairs and, yes, even gas

BY JOSEPH K. VETTER



There's no question: The cost of owning a car just keeps going up. And all too often, consumers feel they're at the mercy



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Our most popular feature, side-by-side comparisons allow users to find the cleanest, most fuel efficient vehicles that meet their needs... like the new **Ford Escape Hybrid.**

www.fueleconomy.gov

Find and
Compare Cars

Gas
Mileage
Tips

Gasoline
Prices

About Fuel
Economy
Ratings

Why is Fuel
Economy
Important?

Advanced
Technology

U.S. Department of Energy

Print the Fuel Economy Guide

U.S. Environmental Protection Agency

Find a Car

Compare Side-by-Side

Search by Class

Search by Make

Search by MPG

Cars that don't need
gasoline

Best and Worst MPG

Remove 2005 Ford Escape 4WD

Remove 2005 Ford Escape HEV 4WD

Side-by-Side

Compare side-by-side

Customize Your Gas Prices &
Annual Miles

Switch to Metric units

Fuel Economy		
	Regular	Regular
Fuel Type	18	33
MPG (city)	22	29
MPG (hwy)	19	31
MPG (comb)	\$1428	\$877
Annual Fuel Cost*		

Global Warming?		
	Worst	Best
Annual Greenhouse Gas Emissions*	15.3	3.1
	9.8 tons	6.2 tons

Safety		
National Highway Traffic Safety Administration	Crash Test Results	Crash Test Results

Air Pollution?		
Many vehicles have versions that look the same, but have different Air Pollution Scores. (See "How to Identify a Clean Car") All versions may not be available in your area.		

EPA Air Pollution Score	Availability	EPA Air Pollution Score	Availability
1		1	
LEV 5FMXT03.02FE		LEV 5FMXT02.31EE	
3		7	
BIN 8 5FMXT03.02FE		BIN 4 5FMXT02.31EE	
		9	
		SULEV II 5FMXT02.31EE	

For more info see
EPA's Green Vehicle
Guide



U.S. Department of Energy
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\$550 in fuel savings every year and equal performance!


www.fueleconomy.gov

[Find and Compare Cars](#) | [Gas Mileage Tips](#) | [Gasoline Prices](#) | [About Fuel Economy Ratings](#) | [Why is Fuel Economy Important?](#) | [Advanced Technology](#)


[U.S. Department of Energy](#) | [Print the Fuel Economy Guide](#) | [U.S. Environmental Protection Agency](#)


[Find a Car](#)
[Compare Side-by-Side](#)
[Search by Class](#)
[Search by Make](#)
[Search by MPG](#)
[Cars that don't need gasoline](#)
[Best and Worst MPG](#)

[Remove](#)
2005 Ford Escape 4WD



[Remove](#)
2005 Ford Escape HEV 4WD



[Compare side-by-side](#)


[Customize Your Gas Prices & Annual Miles](#) | [Switch to Metric units](#)

Fuel Economy		
Fuel Type	Regular	Regular
MPG (city)	18	33
MPG (hwy)	22	29
MPG (comb)	19	31
Annual Fuel Cost*	\$1428	\$877

[Global Warming?](#)

Annual Greenhouse Gas Emissions*

Worst

Best

15.3

3.1

9.8 tons

Worst

Best

15.3

3.1

6.2 tons





We have expanded and enhanced our Hybrid Vehicle section.

- Side-by-side comparison of available hybrids
- News on available and upcoming hybrids
- How HEVs work
- HEV animation
- Tax incentives
- HEV Links

www.fueleconomy.gov

Find and Compare Cars	Gas Mileage Tips	Gasoline Prices	About Fuel Economy Ratings	Why is Fuel Economy Important?	Advanced Technology
U.S. Department of Energy		Print the Fuel Economy Guide		U.S. Environmental Protection Agency	

[Energy Requirements](#)
[Hybrid Vehicles Compare Side-by-Side](#)
[News and Info](#)
[How Hybrids Work](#)
[Tax Incentives](#)
[Hybrid Links](#)
[Alternative Fuel Vehicles](#)
[Other Advanced Technologies](#)

New Hybrid Vehicles Increase Gas-saving Options for Consumers

The number of hybrid vehicles available to consumers continues to grow as Ford Motor Company offers the first commercially available hybrid SUV, the Escape Hybrid, for model year 2005. Toyota Motor Corporation will also be offering hybrid versions of the Toyota Highlander and Lexus RX400 SUVs for model year 2005. Honda will be offering a hybrid version of the Accord for this model year, further increasing consumer choices for hybrid vehicles.

In addition to these new hybrids, the Honda Insight and Civic Hybrid and the Toyota Prius are still available to consumers and offer exceptional gas mileage, the best in their respective classes. These vehicles are also environmentally friendly, emitting less global warming and smog-forming emissions than most conventional vehicles. Hybrid pickup trucks are also available as General Motors Corporation continues to offer the Chevy Silverado and GMC Sierra hybrid pickup trucks to a limited number of fleet and commercial operators in selected areas.

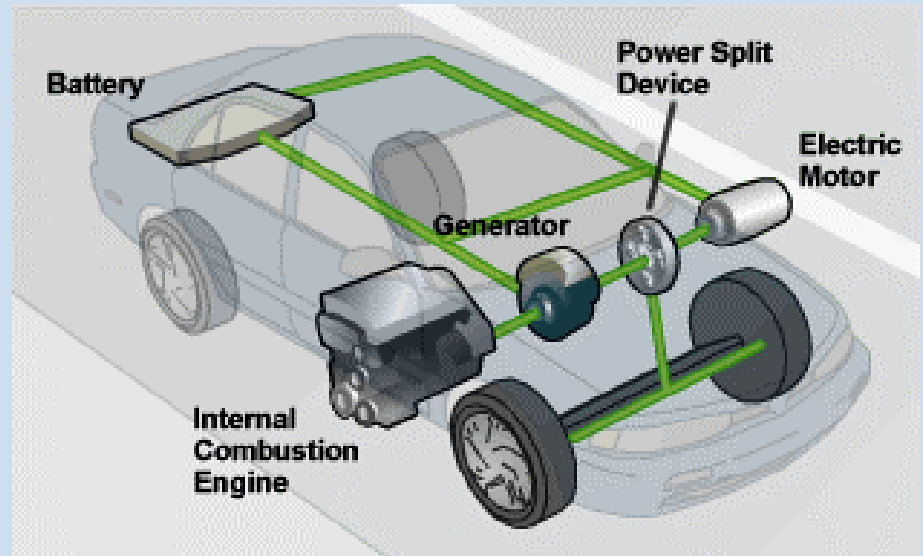
[More Hybrids Coming Soon](#)
[How Hybrids Get Great Gas Mileage](#)

Gas-Saving, Low-Emission Choices



Our HEV Animation illustrates how different types of hybrids work.

- Shows energy flow among components for different driving modes
- Three types
 - Hybrid
 - Full
 - Stop/Start
- Up to six driving modes per vehicle
- Includes description of HEV components



[View Animation](#)



#1 Question: Why doesn't my car get the EPA-rated MPG?

- How Vehicles are Tested
- Fuel Economy Test Schedules
- Why MPG estimates are not available for bigger trucks and SUVs

www.fueleconomy.gov

Find and Compare Cars	Gas Mileage Tips	Gasoline Prices	About Fuel Economy Ratings	Why is Fuel Economy Important?	Advanced Technology
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EPA Fuel Economy Ratings

Which Vehicles Are Tested

How Vehicles Are Tested

Fuel Economy Test Schedules

Laboratory vs. Real-World MPG

How Vehicles Are Tested

Fuel economy is measured under controlled conditions in a laboratory using a standardized test procedure specified by federal law. Manufacturers test their own vehicles—usually pre-production prototypes—and report the results to EPA. EPA reviews the results and confirms about 10-15 percent of them through their own tests at the [National Vehicles and Fuel Emissions Laboratory](#).

In the laboratory, the vehicle's drive wheels are placed on a machine called a dynamometer that simulates the driving environment—much like an exercise bike simulates cycling.

The energy required to move the rollers can be adjusted to account for aerodynamic forces and the vehicle's weight.



On the dynamometer, a professional driver runs the vehicle through a standardized driving routine, or [schedule](#), which simulates "typical" trips in the city or on the highway.

[See video](#)





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“Your MPG” will launch March 1, 2005

www.fueleconomy.gov

Find and
Compare Cars

Gas
Mileage
Tips

Gasoline Price
Information

Why is Fuel
Economy
Important?

Advanced
Technology

Your
MPG

U.S. Department of Energy

Print the Fuel Economy Guide

U.S. Environmental Protection Agency

Your MPG

Help

Welcome to Your MPG!

We've created 'Your MPG' to help you calculate and track your fuel economy and compare it with EPA test ratings. You can also share your MPG with other users. Once enough users share their MPG, you will be able to compare your MPG to others with the same vehicle.

Benefits of Registering

If you register, you will be able to save your MPG information and view, edit, or update it later. You will also be able to share your MPG with others. Fueleconomy.gov retains no information that could be used to identify any individual with a user name or password.

As a non-registered guest, you still have access to all MPG tools, but you cannot save your data or share your MPG.

We Can Help You...

[Calculate Your MPG](#)

[Maintain a Fuel Purchase Record](#)

Other Useful Tools

[Our Printable Form for Recording Fuel Purchases](#)



► New User

[I want to register!](#)

[I want to enter as a guest.](#)

► Registered User Login*

User Name:

Password:

Login



Your MPG helps users:

- Calculate and track their fuel economy
- Compare their MPG to EPA's test ratings
- Share their experience with others

www.fueleconomy.gov

Find and Compare Cars | Gas Mileage Tips | Gasoline Price Information | Why is Fuel Economy Important? | Advanced Technology | **Your MPG**

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Your MPG

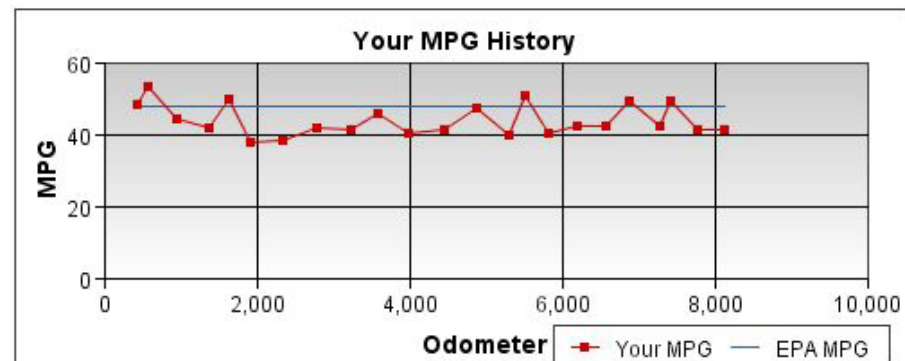
Help

◀ Back to Garage

Your Fuel Purchase Records:
2003 Toyota Prius



43	52	45	48
Your MPG	City	Hwy EPA MPG	Comb

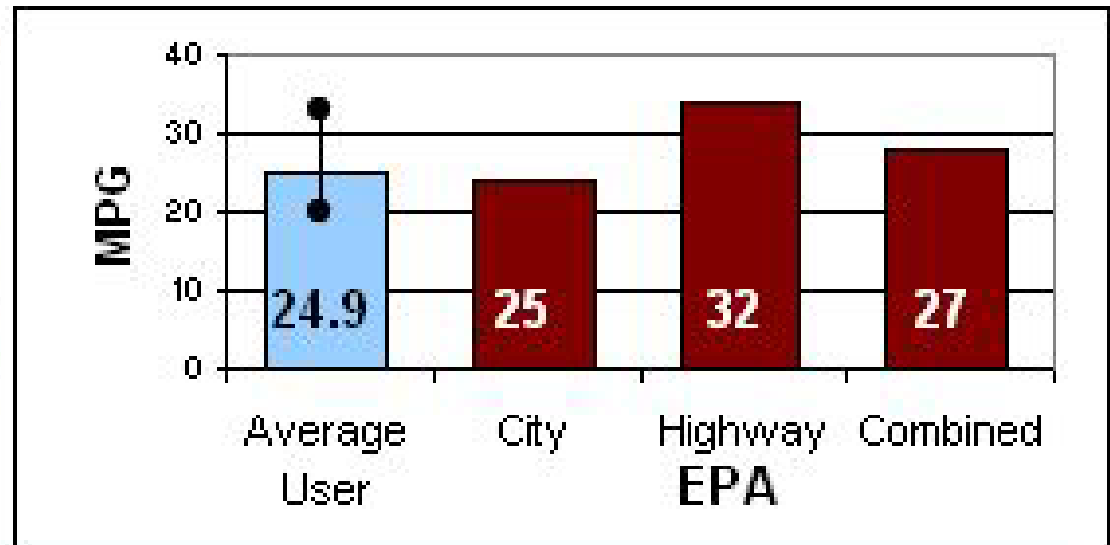




We expect Your MPG to become a new and unique source of fuel economy information.



4 Cylinder, 2.4 Liter,
Automatic



Total Number of Drivers Reporting MPG for this model: 11
Average User MPG: 24.9
Range: 20 - 33 MPG



UC Davis completed a groundbreaking study of fuel economy and household vehicle purchase decisions that points the way to more effective marketing.

- Households do not directly estimate the value of fuel savings.
 - Annual fuel costs are unfamiliar
 - **Consumers know the cost of a tank of gas**
- For most,
 - Fuel economy = small, cheap
 - **Energy efficiency = high tech, quality**
- Hybrid buyers more interested in environmental lifestyle than saving fuel.
- **More than half of households know their vehicles' fuel economy (Your MPG!).**
- Financial support of Energy Foundation was essential.



In the future, consumers will have more and more high-tech, fuel-efficient options.

- **No compromise fuel **efficient hybrids****
 - Max efficiency (Prius, Escape)
 - Power + efficiency (Lexus, Accord)
- **Clean diesels** that meet emissions standards with 30-50% better MPG and more torque
- **Displacement-on-Demand** offering 10% more MPG with no change in performance
- **Stop-Start** systems boosting fuel efficiency by 10% and providing high-voltage electricity
- **Camless valve** systems with up to 10-15% better efficiency and better performance



Where are we going from here?

- Build to 10 million users in 2008.
- Continue promoting our products.
- Launch new data product “Your MPG”
- Develop and execute marketing strategy around *energy efficiency*
- Work with Clean Cities Coalitions to **promote fuel economy locally**.
- Continuous improvement of fueleconomy.gov and Fuel Economy Guide